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Final Report to the National Science Foundation

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TENNESSEE INNOVATION GROUP

Final Report

to the NATIONAL SCIENCE FOUNDATION

Municipal Technical Advisory Service
University of Tennessee
In cooperation with the Tennessee Municipal League

August 1981

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TENNESSEE INNOVATION GROUP

FINAL REPORT
TO THE
NATIONAL SCIENCE FOUNDATION

August 1981

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FOREWORD

This Report summarizes the progress and activities of the Tennessee Innovation Group during the period of May 1980 through July 1981. Together with the Report prepared for NSF in April 1980, it should provide a comprehensive overview of the three-year local government technology innovation effort undertaken by the University of Tennessee through the Tennessee Innnovation Group.

For a variety of reasons this Report is premature. Chief among them is the precipitous reduction of funding for all National Science Foundation supported local government applied science and technology programs. The net result of this reduction in Tennessee is an effective close-out of the TIG project and its efforts circa August 1981. Although NSF has allowed the University to complete all projects which were in process as of the announcement of the intended Federal budgetary recision (February 1981), no new efforts have been initiated since that time.

This Report is presented in four parts. First, projects undertaken by the TIG since April 1980 are described. Second, there is a brief discussion of three major problems encountered by the TIG. Third, lessons learned during the past three years are presented. And, finally, a few recommendations are offered regarding the future of technology innovation for local government in Tennessee. The Appendix contains a revised technology needs list as approved by the TIG steering committee in 1980.

TENNESSEE INNOVATION GROUP:

FINAL REPORT TO THE NATIONAL SCIENCE FOUNDATION

I. Process and Projects

A. Process

The Tennessee Innovation Group was established in January 1978 following receipt of a grant from NSF in the amount of $95,000. Awards for the second and third years of the program, in amounts of $100,060 and $100,000 respectively, were also received. Due, however, to NSF budget reductions for the applied science and technology program, the third (and final) year award was reduced in July 1981 to $60,500. Total NSF support for the project thus was $255,560. The University of Tennessee matched the NSF award during this period with both cash and in-kind contributions in the form of University public service staff participation in the project.

The Tennessee Innovation Group grant proposal to the National Science Foundation listed nine specific objectives for the project. Reduced to their most important elements, these objectives are summarized as follows:

1. To develop a mechanism for the continuing review and identification of commonly shared technical assistance needs among small and medium sized Tennessee cities;

2. To select priority projects from among the identified needs for which either new local government technologies could be developed or existing technologies adapted and transferred into Tennessee;

3. To demonstrate in selected cities in Tennessee the technologies developed or adapted pursuant to item (2) above and, subsequent to their successful demonstration, to assure the replication of these technologies in other cities through the State.

4. To train public service technical assistance personnel on the staff of the Municipal Technical Advisory Service, the University of Tennessee, in the technologies developed or adapted and field-tested pursuant to (2) and (3) above in order to enhance the capacity of the Municipal Technical Advisory Service to provide technical assistance to Tennessee cities in coming decades.

The Tennessee Innovation Group grant proposal initially called for the development of a complex committee structure for the management of the project, the identification of common technical assistance needs, the selection of specific technologies to address priority needs, and the identification of technical resources to assist in substantive projects. These committees included:

1. Municipal Steering Committee made up of the chief executive officer (mayor or city manager) of the 12 cities* which constituted the Tennessee Innovation Group and formed to provide programmatic guidance for the project.

2. Municipal Science and Technology Policy Committee. This Committee consisting of the principal investigator and co-principal investigator of the Tennessee Innovation Group project; the executive director of the Institute for Public Service of the University of Tennessee; the executive

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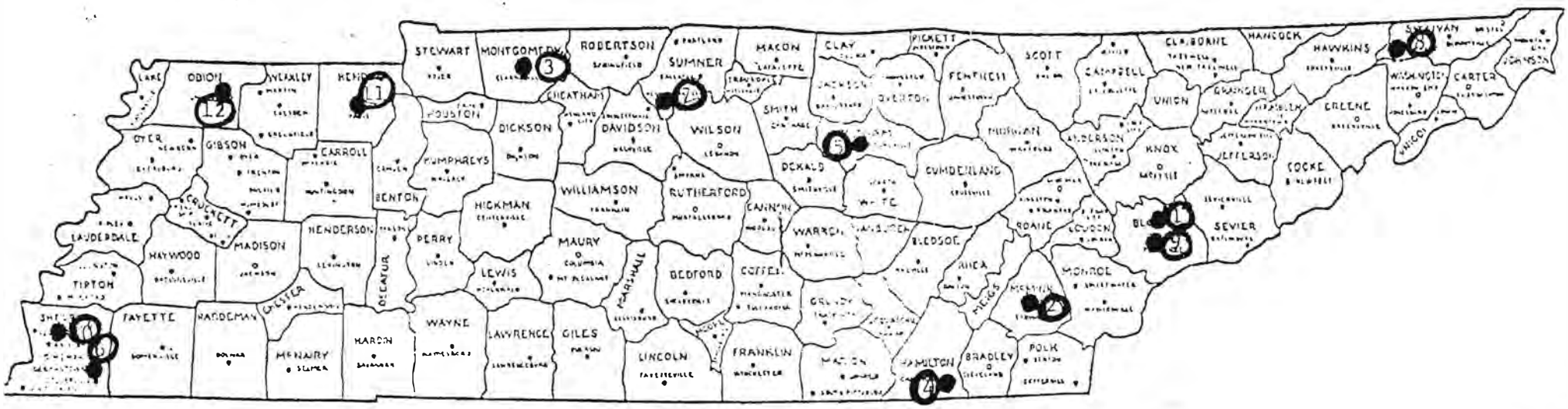
*These cities are: Alcoa, Athens, Clarksville, Collegedale, Cookeville, Germantown, Hendersonville, Kingsport, Maryville, Millington, Paris, and Union City. They were selected to represent the more progressive and innovative small and medium sized cities in the State. The belief was that such cities would be able to assist in the identification of local government science and technology needs and willing to experiment with innovative solutions. See page 2A for a map of these cities listing populations and form of government.

TENNESSEE INNOVATION GROUP

Project Cities



	City	Population	Form of Government
1.	Alcoa	7,739	Council-Manager
2.	Athens	11,896	Council-Manager
3.	Clarksville	52,621	Mayor-Council
4.	Collegedale	3,669	Council-Manager
5.	Cookeville	17,473	Council-Manager
6.	Germantown	23,000	Mayor-Council, City Adm.
7.	Hendersonville	23,105	Council-Manager
8.	Kingsport	32,117	Council-Manager
9.	Maryville	16,677	Council-Manager
10.	Millington	21,177	Mayor-Council
11.	Paris	10,711	Council-Manager
12.	Union City	11,925	Council-Manager

director of the Municipal Technical Advisory Service of the University of Tennessee; and executive director of the Tennessee Municipal League; and the chairman and vice-chairman of the Municipal Steering Committee. This committee provided administrative direction to the project manager.

3. Science and Technology Resource Panel created to help the project manager identify sources of technical assistance to address priority needs. The Panel was to include representatives of higher education, Federal laboratories, Federal agencies, private enterprise, NSF funded innovation groups, Public Technology, Inc., and other potential contributors to the identification of technology resources. Other members were to be the Technology Agent of the City of Nashville (as Urban Technology System network city) and the Public Works Director of the City of Memphis (an Urban Consortium network city).

Due to the inherent complexity and overlapping membership of this committee structure, it was abandoned at the end of the first year of the project and replaced by a single, augmented Municipal Steering and Policy Committee. (See Report to NSF of April 1980.) This Committee has provided overall project policy guidance since. The processes employed for identifying needs and developing demonstration projects have remained unchanged.

B. Projects

Figure I shows the technologies developed by the TIG to address priority needs during the first year of the project.

Figure I

First Year Projects

Project	Demonstration Site
Minicomputers	Millington Germantown Bartlett (nonproject city)
Risk Management	Athens Paris
Productivity	Maryville Alcoa

As noted in the April 1980 Report, the projects in minicomputers and risk management have been highly successful and have "spun-off" numerous replication efforts. For reasons pointed out in that Report, the productivity improvement project failed to generate interest among local governments in Tennessee and has been abandoned.

Figure II provides a list of second and third year spin-off sites for the minicomputer and risk management projects and includes a single presentation on municipal productivity which was the only direct spin-off of the productivity project.

Figure II

Spin-Offs
Minicomputer and Risk Management Projects

Project	Location
Minicomputer	Germantown (system implementation) Millington (second effort at system approval) Johnson City (evaluation of existing system) Morristown Clarksville Jackson Bristol Covington Hendersonville Waverly Gallatin (feasibility study/needs analysis leading to full procurement process) Elizabethton (advice on system procurement)

Risk Management	Johnson City Maryville Hendersonville Union City Greenville Morristown Savannah	(full risk management analysis)
Productivity	Cleveland (presentation)	

In addition to these on-site technical assistance spin-off projects in specific cities, the following spin-offs also resulted from the demonstration by the TIG of these technologies:

Figure III

Additional Spin-offs of First Year Projects

*State-wide workshops on low-cost computers and local government (1979, 1980 and 1981)

*Preparation of a Consultant's Local Government EDP Handbook (publication slated for the fall of 1981) to assist technical assistance specialists work with local governments in the area of automated data processing.

*Development of several scholarly articles, or technical reports and presentations by the project manager on various aspects of local government data processing. In addition, the project manager was selected by Control Data Corporation to participate on an advisory panel in the development of CDC's worldwide computer based urban information newtwork LOGIN.

*Workshops on local government risk management held in several locations around the state (1980 and 1981); and a workshop on local government isurance management held in four locations around the state (1981).

*Development (with publication in late 1981) of an extensive Local Government Risk Management Handbook.

During the second and third years of the TIG effort, several new projects were authorized by the Steering and Policy Committee. These projects are listed in Figure IV along with their current status and demonstration location.

Figure IV

Second and Third Year Projects

Project:	Financial Management Develop a program for training and certification for local government financial personnel and seek funding.
Status:	Project developed; no funding source located; project closed; should funding be secured it would be reopened.
Location:	Statewide application.
Project:	Public Works Standard Specifications Develop minimum standard specifications for the design and construction of municipal streets, storm and sanitary sewers, potable water distribution systems and materials specifications. The completed document (estimated to be 350 pages in length and including standard drawings) will be published in a loose-leaf notebook format and will include standard contract documents. Workshops will be held in four locations in the state to present the final document.
Status:	Underway, with completion (including publication and distribution of the final document) expected during the first quarter of 1982.
Location:	Statewide application.
Project:	Street Maintenance Adapt and transfer model street maintenance training program developed by the center for Local Government Technology, Oklahoma State University.
Status:	OSU staff conducted this program in the summer of 1980 in Hendersonville, Tennessee. Due to funding recision, no follow-up.
Location:	Initial demonstration: Hendersonville; statewide application.
Project:	Street Maintenance Prepare technical report on alternative and innovative techniques of street repair.

Figure IV (Cont'd)

Status:	60 page Technical Report with annotated bibliography printed and distributed June 1981.
Location:	Statewide; with limited national distribution.
Project:	Refuse Collection Assist Memphis to computerize data from demonstration project involving innovative refuse collection technologies.
Status:	Completed fall 1980.
Location:	Demonstration project in Memphis -- statewide applicability.
Project:	Refuse Collection Produce a film on alternative and innovative refuse collection technologies.
Status:	18 minute, sound, color film entitled THERE IS A BETTER WAY completed winter 1980-81. (At this writing over 20 copies have been sold or rented nationwide and there have been numerous showings both within and outside of Tennessee.)
Location:	Filmed in Memphis, Maryville and Knoxville. Applicable state- and nation-wide.
Project:	Refuse Collection Develop narrative and analytical materials on alernative refuse collection technologies.
Status:	The following materials were written: 1) 12 page booklet to accompany the film -- 1500 printed. 2) MTAS Technical Bulletin on Automated and Semi-Automated Refuse Collection -- distributed to local governments in Tennessee. 3) Article on cart collection systems written for American City and County Magazine -- July 1981 issue. 4) Film and technical material presented at a NLC National Solid Waste Seminar, Savannah, Georgia June 1981.
Location:	State-and nation-wide applicability.

Figure IV (Cont'd)

Project:	Payroll-Personnel Develop a model payroll-personnel system for Tennessee local governments suitable for automation.
Status:	Project withdrawn due to funding recision.
Location:	Statewide applicability.
Project:	Fleet Management Develop or adapt a training program on alternative and innovative tecniques in municipal fleet management.
Status:	Project withdrawn due to funding recision.
Location:	Statewide applicability.

C. Summary

These efforts -- a total of twenty one on-site technology demonstration or replication projects in specific cities; fifteen workshops and seminars involving the demonstrated technologies held for both MTAS staff and Tennessee local government officials; several written works including Technical Reports, Handbooks, and scholarly articles and oral presentations on these technologies; and development of a film on state-of-the-art refuse collection technologies and accompanying written materials -- were undertaken by the Tennessee Innovation Group during the period of May 1980 to July 1981. To these must be added three demonstration projects undertaken in seven cities during the first year and one half of the project. Many of the efforts which have been completed to date have received wide attention in Tennessee and, as in the case of the refuse collection film, nationwide attention as well. Similar responses to the TIG's Technical Report on Street Maintenance and to the public works standard specifications document are anticipated.

Had funding for the TIG not been reduced the summer of 1981, it is certain that several additional projects of equal quality could have been undertaken. These would have included projects in at least the following areas: street maintenance (workshops and training programs); payroll-personnel (automated system); municipal fleet management (workshops and training programs); and others which had been identified and given priority by the TIG Municipal Policy and Steering Committee.

II. Problems

A. Overview

The number and effectiveness of the technologies demonstrated under the Tennessee Innovation Group, their subsequent replication by MTAS staff, and their value to Tennessee cities and to MTAS indicate that the TIG has unquestionably had positive effects in Tennessee. It has also met or exceeded nearly all of the objectives set forth in the grant proposal to NSF.

Yet all has not been sweetness and light. There were some problems that affected the project and these should be mentioned.

B. MTAS Support

From the inception of the project, it was generally understood that a major necessary ingredient for success depended upon the support of the Municipal Technical Advisory Service, where the TIG was located and administered. In the early days there was some confusion as to the role of the Executive Director of MTAS in the overall process. He was not the Principal Investigator nor Program Manager, yet he had administrative

responsibility for the project and its in-kind support through his existing field staff and specialists.

This situation resulted in a distinct communication gap, with certain MTAS staff uncertain as to what their role should be on TIG projects if there were time or area conflicts with ongoing technical assistance.

Close to the end of the second project year the leadership of MTAS changed for the first time in 28 years, as the executive director retired. This change was fairly traumatic for the MTAS staff and resulted in a period of adjustment to new mnagement style and emphases. The result was a period in which TIG projects were not the main concerns of some field staff or specialists and the TIG Program Manager felt a lack of total commitment to his ongoing projects.

These two situations, which were largely unavoidable, may have kept the TIG from a total accomplishment of one of its major objectives: that of enhancing the capacity of MTAS to respond to the more technical and/or innovative needs of Tennessee cities. Not all of the MTAS consultants became involved in TIG efforts and as a result capacity building in the organization has been uneven. This produced different geographic and programmatic patterns within MTAS and across the State with regard to TIG projects.

In total candor, a further portion of this lack of involvement by some MTAS staff came about through distinct personality conflicts with the Program Manager for the project.

However, regardless of the reasons, a more complete involvement of all municipal consultants and special consultants throughout the project would

no doubt have resulted in extending objectives of TIG project and this, in turn, would have greater implications for the future.

C. Other Problems

Two other problems that occurred might be called irritants but cannot be viewed as major impediments to the effectiveness of the TIG.

The first of these related to problems that often exist in dealing with large organizations - bureaucracy. It is difficult to estimate the time, effort and frustration resulting from an inability to receive responses to letters, proposals, reports and telephone calls throughout the life of the project. Efforts to reduce these irritants would be welcome at both ends of the project we are sure.

The final problem mentioned here is the budgetary recision which occurred in July of 1981. Although the Tennessee Innovation Group has undertaken the successful demonstration of a number of innovative local government technologies, it could have had an even more successful concluding project year had the final year's grant award not been reduced by 40%. Further, a more adequate level of final year funding would have eased the transition from TIG reliance on Federal funding to insitutionalization as in internal MTAS effort. Nineteen eighty-one is a particularly bad year for such a budgetary recision. As a result of prior Federal and state budget cutbacks affecting higher education, the MTAS budget has been substantially reduced. Hence, the recision of the NSF grant may seriously jeopardize the transition of this program to an all MTAS effort at this time.

III. Lessons

A. Introduction

Several lessons can be learned from the Tennessee Innovation Group project. None of them are especially novel; most were predictable; and almost all have been reported in the growing body of literature on technology transfer and innovation. Nevertheless, those learned through the TIG project are reported for the benefit of others engaged in similar efforts and for those who might want to know some of the factors affecting technology transfer and innovation for local government. As the philosopher said: those who do not learn from history are doomed to repeat it.

B. Lessons

Some of the lessons reported are more important than others; but each had a unique bearing on the TIG effort.

1. Organizational leadership. Leadership from and the support of an organization's top management are critical to any new or innovative program -- especially one which represents a departure from and perhaps a threat to traditional methods of operation. The initial ambivalence of MTAS leadership and support were discussed in Section II and need not be repeated in detail here. Suffice it to say that the apparant lack of such support and leadership placed definite limitations on the overall effectiveness of the project.

2. External funding. For the Tennessee Innovation Group, although this may not be true elsewhere, external funding was particularly important. Without the NSF grant, the TIG would not have been established; the resultant demonstration and pilot projects would not have been pursued by

MTAS; and there would have been no training of MTAS staff in these technologies and no replication or spin-off efforts. Further, the recision of the final year's award by NSF may jeopardize the institutionalization of the TIG as part of the regular MTAS operation.

3. Technology innovation for local government is viable. Organized, directed efforts designed to develop new or adapt existing innovative technologies for application by local governments are viable. Such undertakings may not be simple or easy; but they can produce effective results both quantitatively and qualitatively. This certainly has been the case in Tennessee as can be seen in the data presented in Section I above.

4. Technology innovation is costly. Over the three years of the TIG project, a total of over $300,000 NSF and University dollars and hundreds of hours of MTAS staff time were spent on 28 technology innovation and transfer projects in Tennessee cities, fifteen seminars and workshops on these technologies, several technical reports and presentations and other written works, and a film on the state-of-the-art in refuse collection technologies. If all efforts are added together they will total over 50 separate TIG projects according to MTAS records. Three Hundred Thousand Dollars divided by fifty activities yields an average cost factor of $6,000 per project.

An average cost figure such as this provides neither a fair nor an accurate picture of actual project cost. To do so would require cost-benefit analysis at the individual project level. It must take into account contributed MTAS staff effort. But even so, cost-benefit analysis cannot evaluate non-quantifiable elements of TIG projects such as capacity

building, staff development, communication of innovation, future spin-off projects and the results of as yet incomplete projects (i.e., public works standard specifications and risk management handbook).

5. Technology transfer takes time. Technology and innovation transfer in the public sector are time-consuming enterprises. This is one of the reasons they are costly. Several of the projects initiated by the TIG took two years or more from initiation to full completion. One project which was begun in early 1979 is still in the implementation phase and may not be completed for a year or more. Anyone undertaking a technology innovation project should be prepared for lengthy efforts.

6. Technology innovation inevitably involves failures. As one of the members of the TIG Policy and Steering Committee pointed out at a recent meeting, technology innovation and transfer will not always succeed. Indeed, any such endeavor which never produces failures should be somewhat suspect. The TIG's biggest failure to date has been its productivity management project. Although successful demonstrations were undertaken in two jurisdictions, no spin-off projects have resulted.

Technology innovation and transfer involve breaking new ground and challenging old ways of doing things. Occasional failure, therefore, should be expected. Occasional failure in specific project areas, however, should not be seen as systemic or even procedural weaknesses. Rather, they should be viewed as natural consequences of the type of endeavor -- innovation -- which is being undertaken.

7. A demonstration strategy for technology transfer in the public sector works. In Tennessee at least, the demonstration of innovative tech-

nologies on-site in local governments has been found to be highly efficacious. These demonstrations have included tinkering with and adjusting technologies to meet "local" requirements. Tennessee local officials, like their counterparts in other states, are more likely to accept new or innovative methods of doing things if those methods have been tested and had proven effective in other cities within their state. It has also been important for technology transfer in Tennessee that the new or innovative methods demonstrated have borne the imprimatur of MTAS, the technical assistance agency of the University of Tennessee and the Tennessee Municipal League.

8. Replication or transfer of innovative technology requires marketing. At least one of the reasons for the number of sales and rentals of THERE IS A BETTER WAY and transfers of risk management and EDP technologies is the extent of marketing activities undertaken by the TIG project director and selected MTAS staff members. At least one of the reasons for the lack of spin-offs from the productivity project has been the lack of enthusiasm and marketing on the part of MTAS.

9. An existing delivery system is extremely helpful in the replication or transfer of innovative technologies for local government. MTAS has been in existence serving Tennessee cities for 30 years. It is well accepted by Tennessee cities and is supported by the Tennessee Municipal League. Hence, it has been far easier with this base of support and existing staff capability for the TIG to initiate and carry out technology transfer efforts. And, after all, while the demonstration of technology is important, without replication or transfer demonstration alone would not be

especially valuable.

10. Local governments -- especially small, essentially rural local governments -- need stimulation and assistance to adopt new or innovative technologies. Local governments for a variety of reasons are conservative organizations. They are slow to change and are among the last social agencies to adopt new and improved technologies. So long as this condition persists -- and there is no evidence that it is changing -- stimulation and assistance such as that provided by the TIG will encourage the adoption of new or innovative technologies by and will promote positive change within local governments. For the most part these new or innovative technologies will serve to improve cost-benefit relationships in local government as well as to improve the quality of public service delivery.

11. Serendipity -- the faculty of making desirable discoveries by accident -- is an important feature of technology innovation. For example, in the course of working on demonstration risk management projects in two Tennessee cities, consultants discovered that development of a risk management handbook for local officials coupled with a training program would be a most valuable addition to the TIG's activities. Second, the TIG film, THERE IS A BETTER WAY, was also the result of chance happenings. In this case a demonstration project in one city of state-of-the-art refuse collection equipment, the availability of the equipment for filming, and the idea for a film all occurred independently. The TIG's role was to "put it all together" and produce the film.

12. Technology innovation should not be rigidly channelled but rather should be allowed maximum freedom consistent with sound management prac-

tice. To place too many controls or restrictions on a technology innovation project will unnecessarily limit the development of new ideas, the testing of new or improved concepts and on serendipititous events. Throughout its operation a technology innovation program should remain open and should not prejudge eventual directions or results. By operating within only a few, reasonable parameters, the TIG had maximum freedom to innovate and to develop and test new ideas. Insofar as the TIG project is concerned, the results justify the process.

IV. Recommendations

During the June 1981 TIG Municipal Policy and Steering Committee meeting, discussion turned as it had during the two previous meetings to the subject of the future of the Tennessee Innovation Group. The Committee unanimously felt that based on results to date the TIG should be continued and that it should be continued under the auspices of MTAS. The Committee asked MTAS to develop alternatives for the future TIG structure and program and to present these alternatives with recommendations at the next Committee meeting.

Herewith, for consideration by Committee members and MTAS are the departing project director's suggestions for the future organization and effort of the TIG:

1. MTAS should assign a specific staff member on at least a half-time basis as TIG project director. The responsibilities of the project director -- as is currently the case -- will involve coordinating and directing the activities of the TIG per the project description, goals and objectives as set forth in the grant proposal in 1977 and as modified from time-to-time by the Policy and Steering Committee.

2. With specific support from the Institute for Public Service, MTAS and the Tennessee Municipal League, the project director should seek funding for TIG projects and, with concurrence of the TIG Policy and Steering Committee, should develop recommendations for development of a stable base of funding for the TIG effort within MTAS.

3. The TIG Policy and Steering Committee should be structured as follows: the chief administrative officers (mayor or manager) of fifteen Tennessee cities* whose terms shall be three years; a better balance between elected mayors and appointed managers should be maintained on the committee; and the committee should be responsible for selecting successors to members whose terms expire. In addition, the executive directors of MTAS**, IPS and the Center for Government Training of the University and the Tennessee Municipal League*** should be ex officio members.

4. The Committee should meet at least quarterly for the following purposes:

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*IPS should consider adding counties to the TIG in order that it may serve the technology needs of all Tennessee local governments. The distinction between city and county governments is entirely too artificial to be maintained. If counties are added the membership should be enlarged to twenty units of government and divided between cities and county units.

**and CTAS should counties be added.

***and the Tennessee County Services Association should counties be added.

a. dialogue and information exchange among the members regarding alternative and innovative local government technologies;

b. identification of common local government problems and issues which may be addressed in specific projects by the TIG;

c. selection of priority projects for action;

d. selection of sites for technology demonstrations and replications; and

e. overall guidance for MTAS technology innovation efforts.

5. The Committee should approach IPS and MTAS for funding assistance and staff support for the achievement of TIG goals, objectives and technology innovation and application efforts.

The critical -- indeed essential -- elements here are assignment of competent staff resources by MTAS to coordinate and direct the TIG and the provision of adequate funding (hopefully from a variety of sources but with a consistent and stable base) to continue technology innovation projects. Should these elements be provided and should programmatic support be forthcoming from the MTAS leadership, the TIG's future and its future effectiveness can be ensured.

Appendix

1980 Technology Needs List

1980 Priority Projects List

Tennessee Innovation Group

1981 General Technology Needs List

The following local government technology needs were developed by the TIG Policy and Steering Committee at its October 15-16, 1980 meeting. These needs supplement those developed in September 1978.

Administrative Cost Recovery, Model for

Automation of Wastewater and Water Treatment Plants, Incinerators, etc.

CATV

Communication, after hours

Consultants, Selection and Use of

Fleet Maintenance

Industrial Cost Recovery Ordinances, for WWTP's

Low Head Dams for Wastewater Treatment Plants

Meter Reading, Alternative Methods

Micro Processors in Process Related Operations

Payroll-Personnel System, Automation of Model System

Productivity Fire Department and Other Functional areas

Propane, Conversion of Fleet Vehicles

Sludge Disposal

Street Maintenance Training Program

Supervisory Training (especially first line supervisors)

Telephone Companies, Franchise Fees from

Telephone Number, Single/Emergency

Waste Heat, Recovery of

Water and Waste Treatment Operators, Cross-Training (Nashville program)

Tennessee Innovation Group

1981 Priority Projects*

Projects are listed in priority order

1. Street Maintenance Training. TIG should work with the UT Center for Government Training, the Asphalt Institute and the Center for Local Government Technology at Oklahoma State University to develop a series of packaged training programs in street maintenance. These programs should address three distinct audiences (elected officials, management staff, and line personnel); should cover all relevant technologies, substances and equipment and should be transferable.

   Estimated cost to TIG: $15,000
   Potential Funding Sources: TIG, State DOT, Federal DOT & DOE
   Possible additional sources of assistance: UT Transportation Center (Ken Heathington or Don Jones)
   TIG Involvement: Maximum

2. Fire Department Productivity. This project was divided into two parts: a) a simple, straightforward list of ideas/suggestions for improved utilization of fire fighters' time; and b) a pilot or prototype study with implementation follow up in one (or more) fire departments, the object of which would be improved fire department productivity.

   Estimated cost to TIG: list - no cost
   pilot study - $5,000
   Potential Funding Sources: TIG, Various Federal agencies
   Possible Sources of Assistance: State Fire Training Academy, PTI, Federal Mission Agencies
   TIG Involvement: Maximum

3. Municipal Fleet Management/Maintenance Training. TIG should request UT's Center for Government Training to develop and sponsor throughout the state a comprehensive training program in municipal fleet management and maintenance.

   Estimated cost to TIG: no cost
   TIG Involvement: Minimal[1]

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[1]CGT should be encouraged to use a panel of representatives from TIG (and other) Tennessee cities to design and test these programs.

*Developed at the October 15-16, 1980 meeting of the TIG Policy and Steering Committee. In addition, the Steering Committee reaffirmed its commitment for the following projects which are underway from 1980 program year: refuse collection demonstration film; street maintenance technical bulletins; local government risk management handbook; municipal public works standard specifications; and financial management personnel training and certification.

1981 Priority Projects (continued)

4. Model Payroll-Personnel System (for computerization). Working with MTAS personnel and finance consultants, payroll and personnel staff from TIG cities, and Cogebec, Inc., TIG should assist in development, including documentation, of a model payroll-personnel system suitable for use in automated systems. The personnel component of the system will be developed in conjunction with Cogebec for implementation in Germantown.

   Estimated cost to TIG: no cost
   TIG Involvement: Limited

5. First Line Supervisory Training. TIG should request UT's Center for Government Training to develop and sponsor throughout the state a high quality program in first line supervisor training.

   Estimated cost to TIG: no cost
   TIG Involvement: Minimal[1]

6. Administrative Cost Recovery. TIG should request MTAS to develop a model methodology for identifying and distributing the adminstrative and overhead costs of municipal government for the purpose of recovery said costs from grants, contracts, line departments, enterprise funds, etc.

   Estimated cost to TIG: no cost
   TIG Involvement: Minimal

7. Use of Microprocessors in process related activities (e.g. water and wastewater) of local government.[2]

8. Sludge Disposal.[2]

9. Industrial Cost Recovery.[2]

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[1]CGT should be encouraged to use a panel of representatives from TIG (and other) Tennessee cities to design and test these programs.

[2]Numbers 7-9 were not approved as projects for 1981 but were suggestions to be pursued should funding and time become available to do so.